

Notes on a California Hybrid *Haliotis*

(Gastropoda : Haliotidae)

BY

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(1 Plate)

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SINCE THE 1950s, hybridization between species of *Haliotis* has been noted and recognized as such in California species of abalone. In 1971, OWEN, McLEAN & MEYER published a detailed paper on such hybridization. In addition to the descriptions and illustrations of the hybrid specimens, they included many of the collecting localities, most of which were either in southern California, U. S. A., or northern Baja California, Mexico. The northernmost station was Piedras Blancas in San Luis Obispo County, California (Lat. 35° 40' N). Although no definite records were presented for a cross between *H. rufescens* Swainson, 1822, and *H. k. kamtschatkana* Jonas, 1842, it was stated that such a cross was possible in more northern waters, as both species occupied a similar range as far north as Cape Arago, Oregon (Lat. 43° 18' 30" N).

Recently such a cross was found and deposited in the Talmadge Collection, Eureka, California (No. 3357). The specimen was taken in a depth between 6 and 9 m on a rocky wall of a surge channel at Point Cabrillo, Mendocino County, California (Lat. 39° 21' N). The specimen measures: length, 114 mm; width, 81 mm; height of dorsal shell surface, 25 mm; height of spire, 32 mm. The general appearance of the shell is more elongate than the typical *Haliotis rufescens* of similar dimensions, more elevated than *H. rufescens*, but not as much as *H. kamt-*

*schatkana* (s. s.) in like-sized shells and with the sculpture of a relatively smooth *H. kamtschatkana*. In coloration the shell is a basic reddish, but close examination shows on the first 45 mm the "Tapestry Pattern" of red with blue-green maculations is present.

The open pores are badly distorted. When the shell was 80 mm in length, a major injury occurred along the siphonal angle, obviously damaging not only the shell but the mantle with the shell-secreting glands as well. The 2 open pores do not match either *Haliotis rufescens* or *H. kamtschatkana* (s. l.), while the closed pores are lower than normal in *H. kamtschatkana*, but with the shape and number of that species. The interior of the shell is as in *H. rufescens*.

Unfortunately I did not see the soft parts, but was told they were "different" from any of the associated specimens. This specimen was obtained from the exposed face of a nearly vertical wall which was covered with a low growth of coralline algae and in association with *Haliotis kamtschatkana* (s. s.). In the deep crevices at the base of the wall were found normal *H. rufescens*, and amid the brown algae growing near the surface were found specimens of *H. walallensis* Stearns, 1891.

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## Explanation of Figures 1 to 4

Figure 1: Left: *Haliotis rufescens* Swainson, 1822. Little River, Mendocino County, California  
 Middle: Hybrid of *Haliotis rufescens* × *Haliotis kamtschatkana*, Cabrillo Point, Mendocino County  
 Right: *Haliotis kamtschatkana* Jonas, 1899. Cabrillo Point, Mendocino County, California

Figures 2-4: Hybrid of *Haliotis rufescens* × *H. kamtschatkana* Cabrillo Point, Mendocino County, California. Specimen 3357  
 Figure 2: dorsal view; Figure 3: ventral view  
 Figure 4: lateral view  
 All figured specimens are in the Talmadge Collection